

REMARKS

Claim 1 has been rewritten for clarification purposes. As amended, claim 1 is directed to an elastic attachment hot melt adhesive comprising (1) 15 wt % to about 35 wt % of a radial block copolymer; (2) about 1 wt % to about 6 wt % of a linear triblock copolymer; and (3) about 30 wt % to about 70 wt % of a tackifying resin, wherein the wt % of each component is based on the weight of the adhesive composition. The radial block copolymer comprises $(\text{PS-PI-PB})_n\text{X}$ wherein PS is polystyrene, PI is polyisoprene and PB is polybutadiene, X is the residue of a multifunctional coupling agent used in the production of the radial block copolymer, and n is equal to or greater than 3 and represents the number of PS-PI-PB arms appended to X. Furthermore, the radial block copolymer has a styrene content of from 25 wt % to about 50 wt %, the radial block copolymer has a di-block percentage of less than about 25 %, based on the amount of the radial block copolymer component, and the number average molecular weight of each arm of the radial block copolymer is from about 30,000 to about 95,000. Support for the lower limit (about 1 wt %) of the linear triblock copolymer is replete throughout the Specification, and may be found, for example on page 4, lines 27-28.

Claims 4 and 6 have been amended to correct the antecedent deficiencies.

Claims 15-17 have been newly added. Claim 15 recites that the tackifying resin consists of about 40 wt% to about 60 wt % of a midblock compatible tackifier and about 5 wt% to about 30 wt % of an endblock compatible tackifier. Support for the endblock and midblock compatible tackifiers is replete throughout the Specification, and may be found, for example on page 6, lines 11-14. Claim 16 recites that the midblock compatible tackifier as aliphatic resin and/or cycloaliphatic resin. Support for the foregoing amendment is replete throughout the Specification, and may be found on page 5, lines 26-28. Claim 16 specifies the end block

compatible tackifier as alpha-methyl styrene. Support for the foregoing amendment is replete throughout the Specification, and may be found on page 6, line 10.

No new matter is added. Entry is requested.

Accordingly, upon entry hereof, claims 1, 4, 6-12 and 15-17 will be under consideration or reconsideration. Applicants turn to the substance of the Action, in which rejections have been advanced against the pending claims under 35 U.S.C. §§ 112, 102 and 103.

Rejection under 35 U.S.C. § 112

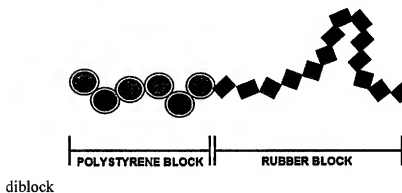
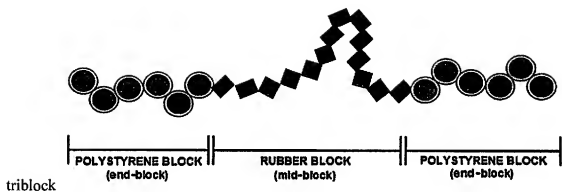
Claims 4 and 6 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claim 4 has been amended to further limit the radial block copolymer as having a di-block percent of less than about 20%. Claim 6 has been amended to correct the antecedent basis of the linear triblock copolymer. The Applicants submit the foregoing amendments obviate the Examiner's rejections. Withdrawal is requested.

Rejection under 35 U.S.C. § 102 or 103

Reconsideration and withdrawal of the rejection of claims 1, 4 and 6-12 under 35 U.S.C. § 102(b), or in the alternative under 35 U.S.C. § 103(a) as being unpatentable over Diehl et al. (U.S. Patent No. 5,292,819, hereafter "Diehl") is requested. Anticipation under § 102(b) requires that all of the elements of a claim be disclosed, expressly or inherently, in a single prior art reference (M.P.E.P. § 2131). In order to support a § 103(a) obviousness rejection, the Examiner must clearly articulate the reason why the claimed invention would have been obvious. A proper prima facie case of § 103(a) obviousness requires, inter alia, that all claim limitations must be considered when judging the patentability of a claim against the prior art (M.P.E.P. § 2143.03).

Amended claim 1 is directed to an elastic attachment hot melt adhesive comprising (1) 15 wt % to about 35 wt % of a radial block copolymer; (2) about 1 wt % to about 6 wt % of a linear triblock copolymer; and (3) about 30 wt % to about 70 wt % of a tackifying resin, wherein the wt % is based on the weight of the adhesive composition. The radial block copolymer comprises $(\text{PS-PI-PB})_n\text{X}$ wherein PS is polystyrene, PI is polyisoprene and PB is polybutadiene, X is the residue of a multifunctional coupling agent used in the production of the radial block copolymer, and n is equal to or greater than 3 and represents the number of PS-PI-PB arms appended to X. Furthermore, the radial block copolymer has a styrene content of from 25 wt % to about 50 wt %, the radial block copolymer has a di-block percentage of less than about 25 %, based on the amount of the radial block copolymer component, and the number average molecular weight of each arm of the radial block copolymer is from about 30,000 to about 95,000.

Applicants would like to clarify that it is well known in the art that a linear triblock copolymer is not a diblock copolymer. All block copolymers, including diblock and triblock copolymers, are made up of hard block units and rubbery block units bonded by covalent bonds, where the hard blocks and the rubbery blocks are completely incompatible with each other. The hard blocks are typically made up of styrenes, and the rubbery blocks are composed of isoprene, butadiene, isobutylene and/or ethylene-butene copolymers. It is well known in the art that triblock copolymers comprise three blocks (with styrene terminated at each ends) whereas diblock copolymers comprise one hard block and one rubbery block (see below for figures).



The Examiner urges that at least a very small amount of decoupled diblock copolymer would be inherently produced by the polymerization process (Office Action dated November 17, 2012, page 3, first paragraph). Applicants acknowledge that some amount of diblock would exist from the radial block copolymer polymerization, and claim 1 recites that the radial block copolymer has a diblock percentage of less than about 25 %, based on the amount of the radial block copolymer. The Examiner further urges that the decoupled PS-PI-PB reads on the linear triblock copolymer (*Id.*, page 3, third paragraph). This is incorrect because the PS-PI-PB is not a linear triblock copolymer. The PI-PB segment of the decoupled PS-PI-PB, from the radial block copolymer, is a single midblock unit because isoprene and butadiene are in the rubbery block, and thus PS-PI-PB is a diblock copolymer. Diehl also refers to the decoupled or uncoupled PS-PI-PB as diblocks (see Diehl, Examples 1-4, col. 9 line 67 – col. 10, line 1; col. 10, lines 32-34, lines 64-66; col. 11, lines 29-31; Table). In contrast, the linear triblock copolymers, e.g., PS-PI-

PS, PS-PB-PS, PS-PiB-PS, PS-PE-PB-PS, PS-PE-PP-PS (as described in claim 6), have three distinct blocks with two styrene blocks at each terminal ends of the copolymer. Hence, the decoupled PS-PI-PB fails to read on the linear triblock of claim 1 as it is a diblock copolymer.

The instant invention, as recited in claim 1, requires a combination of a radial block copolymer with a linear triblock copolymer in the elastic attachment hot melt adhesive. While the radial block copolymer has a diblock percentage of less than about 25 % (based on the amount of the radial block copolymer), this decoupled diblock copolymer is not a linear triblock copolymer. The instant linear triblock copolymer has two distinct styrene end blocks with the rubbery phase as the mid block, whereas the decoupled diblock copolymer has only one polystyrene block. Accordingly, Diehl fails to disclose every limitations of claim 1, and therefore does not anticipate claim 1.

Furthermore, Diehl fails to teach or suggest to combine a linear triblock copolymer with a radial block copolymer for an elastic attachment hot melt adhesive. Nothing in Diehl teaches this particular combination of the radial block copolymer with a linear triblock copolymer makes a good elastic attachment adhesive. Thus, Applicants request that 35 U.S.C. 103(a) rejection of claim 1 be withdrawn.

Applicants respectfully request withdrawal of the rejection of claims 1, 4 and 6-12 under 35 U.S.C. § 102(b), or in the alternative under 35 U.S.C. 103(a) over Diehl. Claims 4, 6-12 and 15-17 depend from claim 1, and are therefore patentable for at least all of the same reasons that independent claim 1 are patentable. Thus, Applicants respectfully request that the 35 U.S.C. § 102(b), or in the alternative under 35 U.S.C. 103(a) rejection of claims 1, 4 and 6-12 be withdrawn.

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration of this application and the timely allowance of the pending claims.

Respectfully submitted,

Date: February 17, 2012

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